

**International Symposium of Sports for
Persons with Disabilities
Lien I-Nan Foundation for Promotion of
Education and Research in Rehabilitation
Medicine**

April 21-22, 2012 Taipei



Prof Jan Burns

**DEVELOPING THE SPORTS SPECIFIC
CLASSIFICATION SYSTEM FOR ATHLETES
WITH INTELLECTUAL DISABILITIES TO
COMPETE IN INTERNATIONAL PARALYMPIC
COMPETITION**

Terminology



- IPC - International Paralympic Committee
- INAS – the International Federation for sport for para-athletes with an intellectual disability
- Intellectual Disabilities /Learning Disabilities/Mental Retardation

My Roles

- Part of large international research group funded jointly between INAS & IPC
- Lead Eligibility Officer for INAS

History



- Sydney Paralympics 2000 – Spanish 10/12 basket ball team found to be cheating due to not having an ID



- ID athletes disallowed from competing until can provide evidence that can comply with IPC governance

IPC Rules and Procedures

Eligibility i.e. Have they the disability they claim to have?

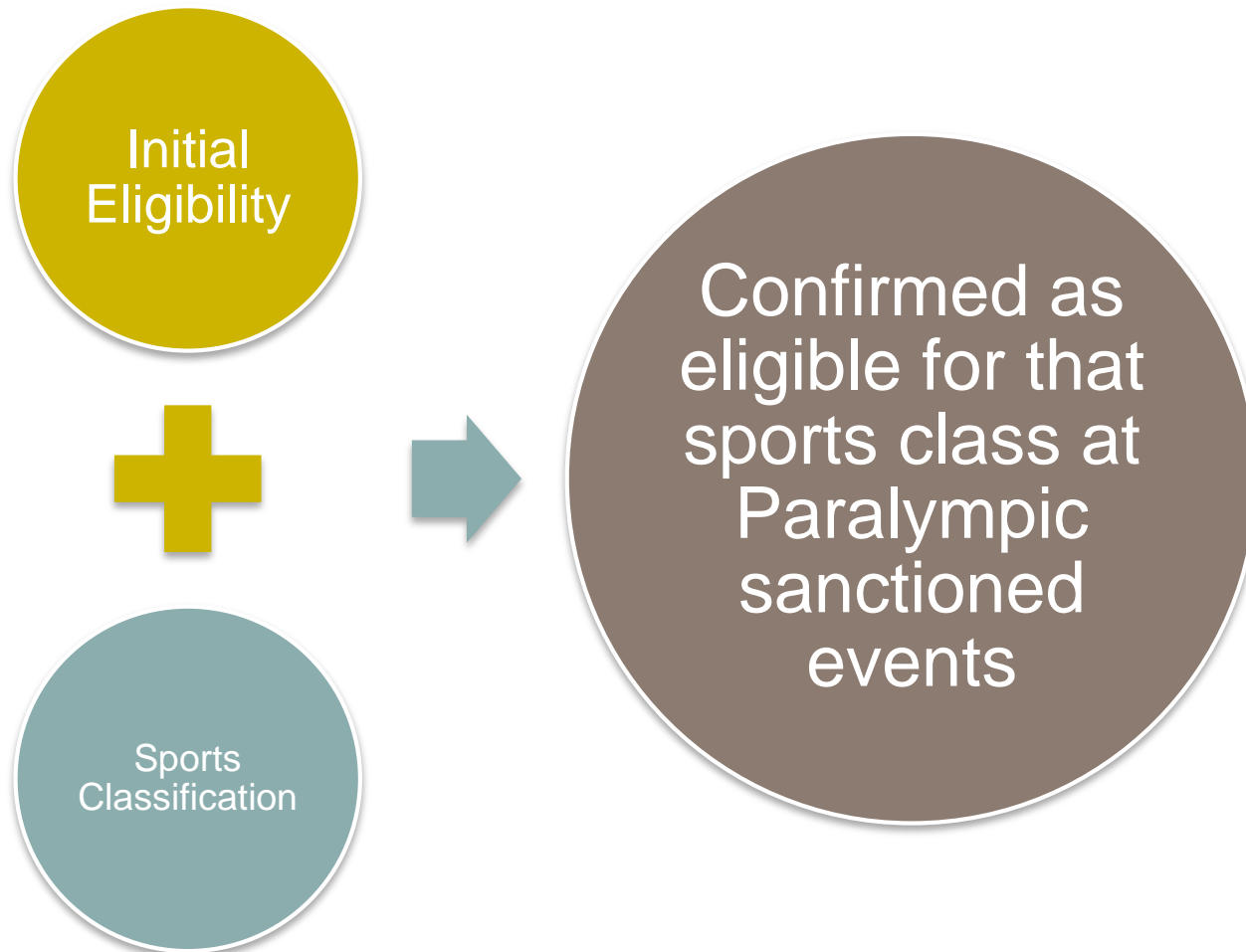


Classification i.e. what impact does the disability have on the sport?



Appeals & Protests i.e. How do we test if the classification is challenged?

What does 'classification' mean for athletes with ID in the Paralympics?

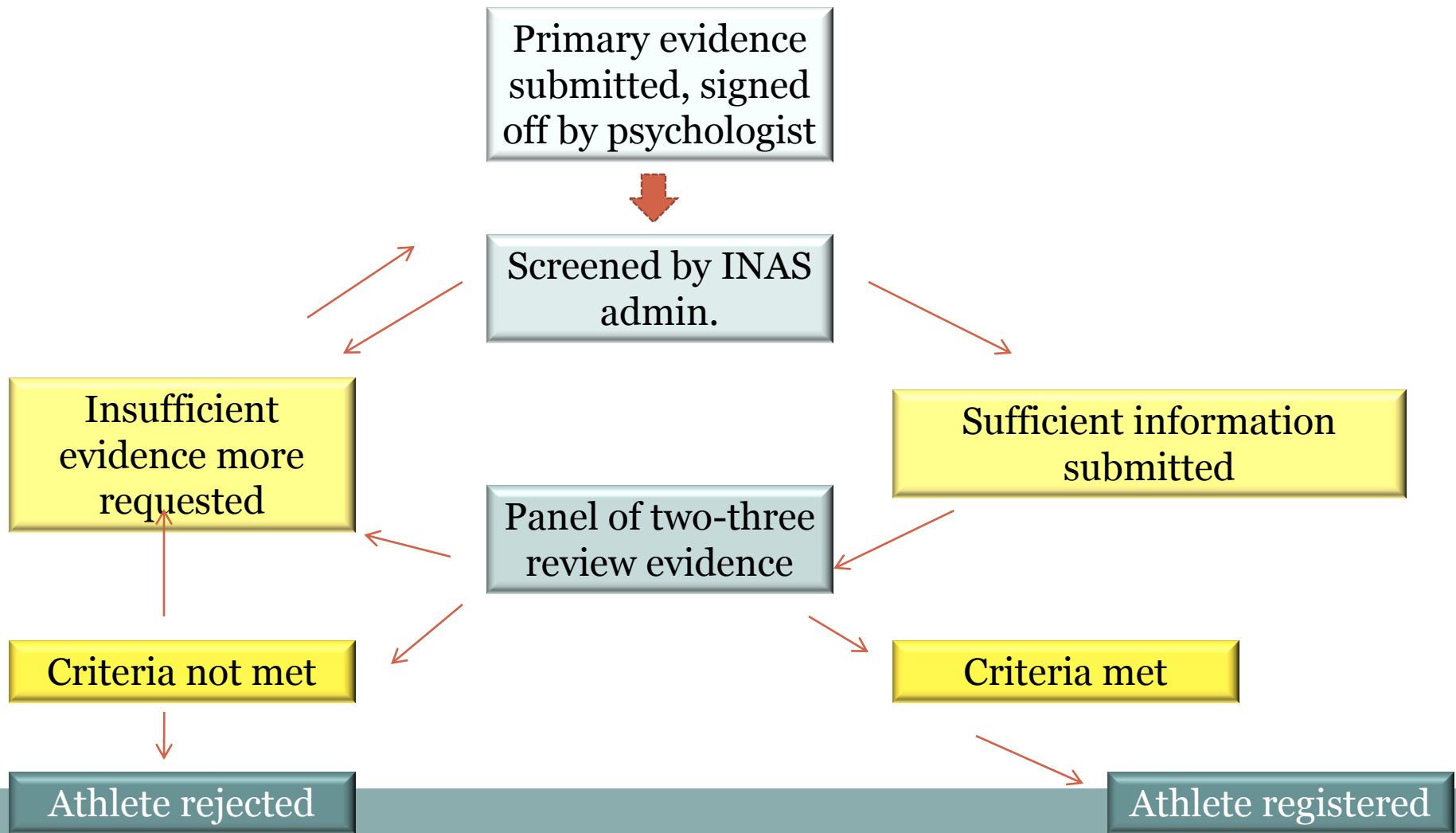


Primary eligibility



- Adopt a universally accepted definition of ID
 - Disability evident before age 18
 - IQ below 75
 - Significant impairment of adaptive behaviour
- Adopt a ‘gold standard’ approach to assessment
 - International Association for the Scientific Study of Intellectual Disabilities (IASSID)
 - Make appropriate adaptations based on available evidence to treat nations fairly

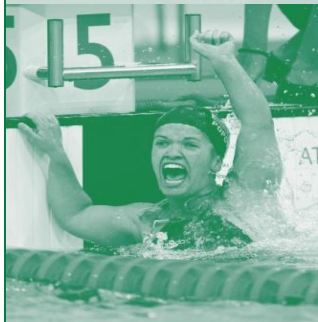
INAS Registration Procedure



Part 2: Classification



- Does having an intellectual disability impact on the ability to perform the sport and in what way?



IPC – INAS Research Group

IPC Peter Van de Vliet

University of Leuven

Yves Vanlandewijck

Debbie Van Biesen

University of Gävle, SUH

Kennet Frojd

Canterbury Christ Church University/INAS

Jan Burns

University of Manitoba

Jennifer McTavish

University of Winnipeg

Melanie Gregg

University of Kohn

Wolfgang Posttast et al

LONDON 2012



- IPC General Assembly Oct 2009 agreed that ID athletes could re-join for London 2012
- 3 sports
 - Athletics
 - ✦ 1500m
 - ✦ Shot
 - ✦ Long jump
 - Table tennis
 - Swimming 100m
- About 80 -120 athletes



How are other groups classified?



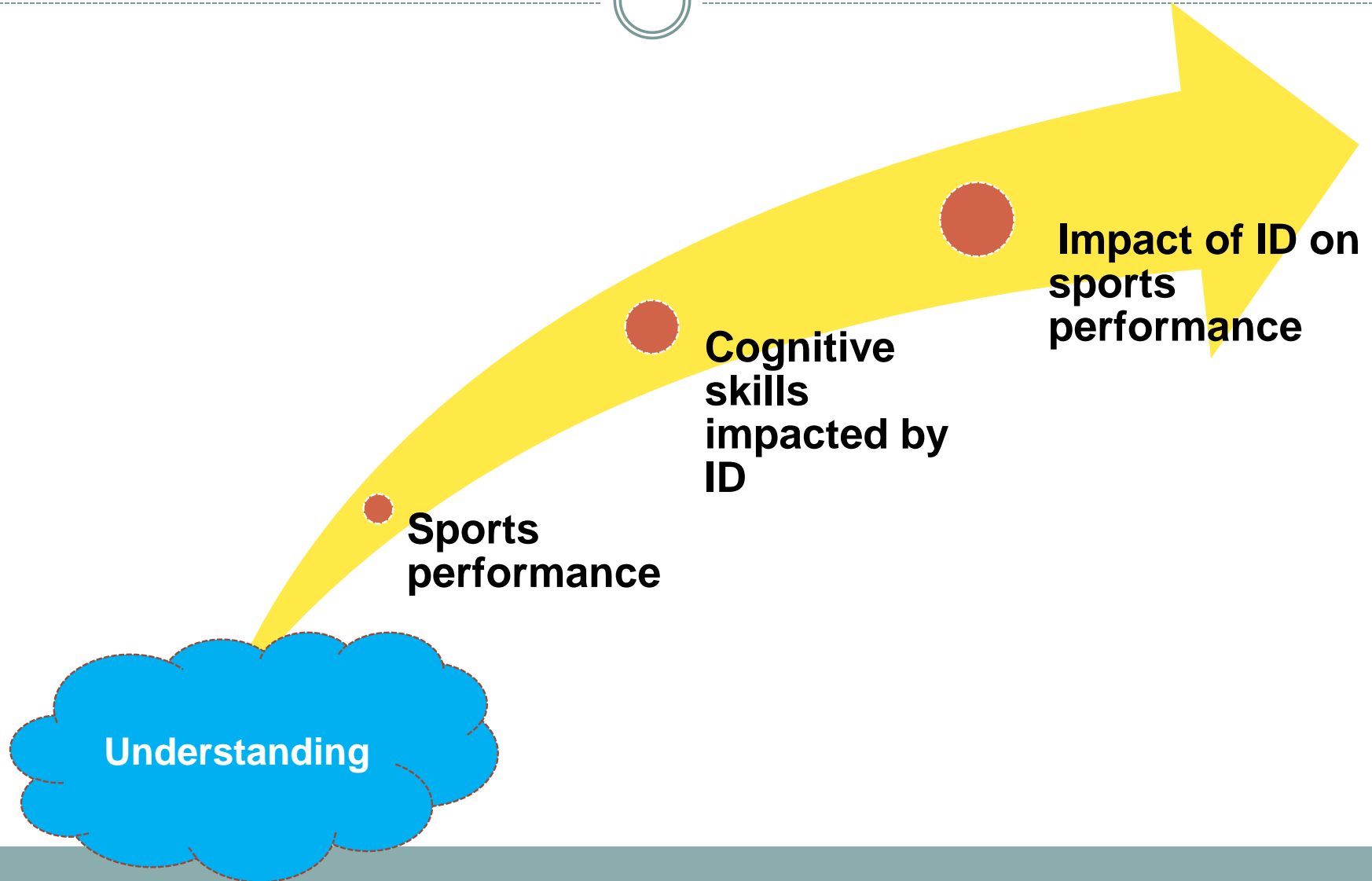
1. Impairment – have they the actual impairment and at what level?
2. Generic activities – activities that reflect the impairment but not sports specific e.g. Balance
3. Practiced activities – sports specific wheelchair manoeuvrability
4. Training history and other environmental factors e.g. training

Research Questions

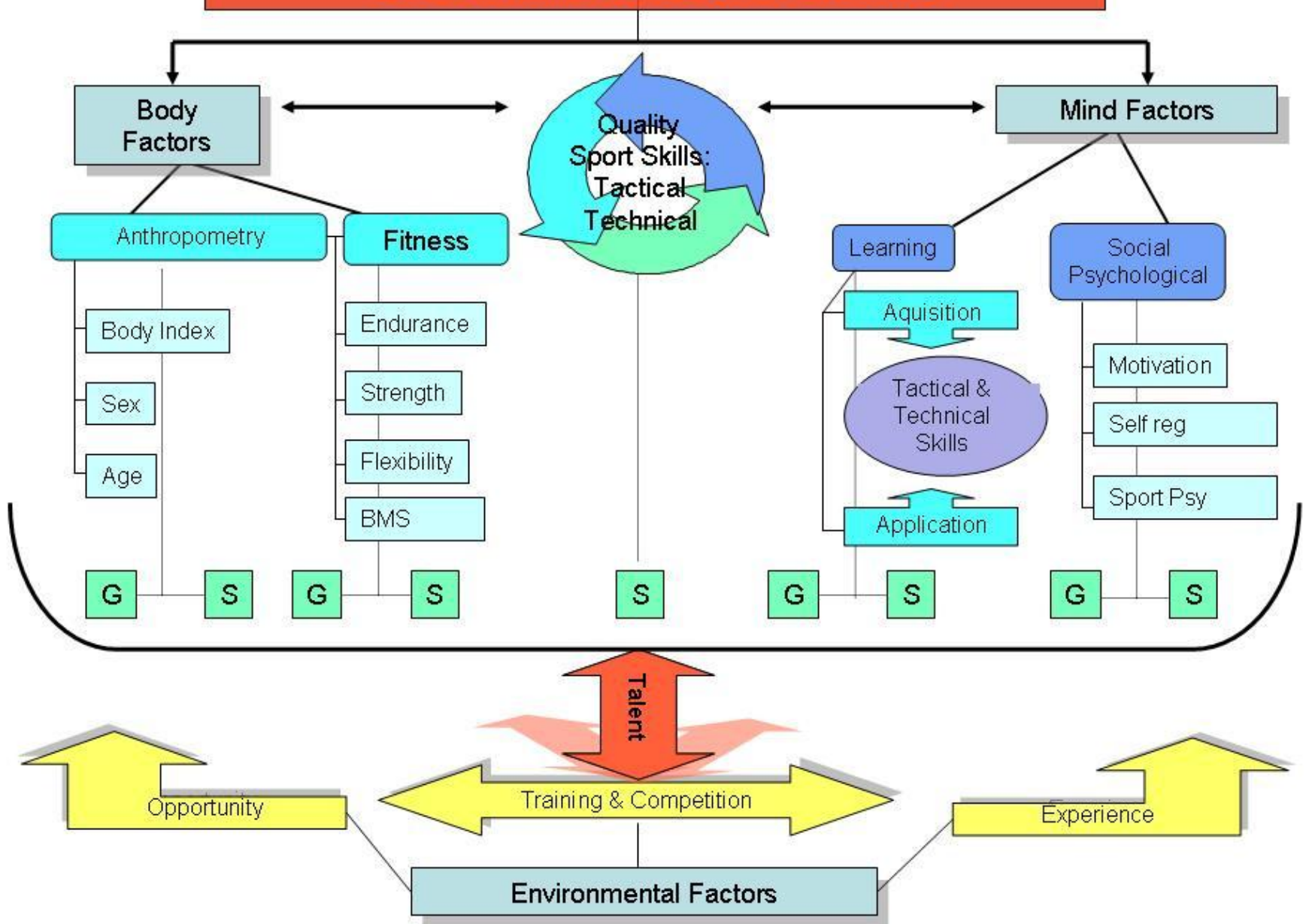


1. Does ID impair sports performance?
2. If so how, and in what way for different sports?
3. So how do classify ID athletes?

Starting from a conceptual model



Core Determinants of Sport Proficiency



Sports Intelligence

Process of Response

Fluid Intelligence
e.g. Sequential learning

Memory & Learning
e.g. Visual memory

Content of Response

Visual Perception
e.g. Perceptual Speed

Manner of Response

Processing Speed e.g. Simple and complex reaction times

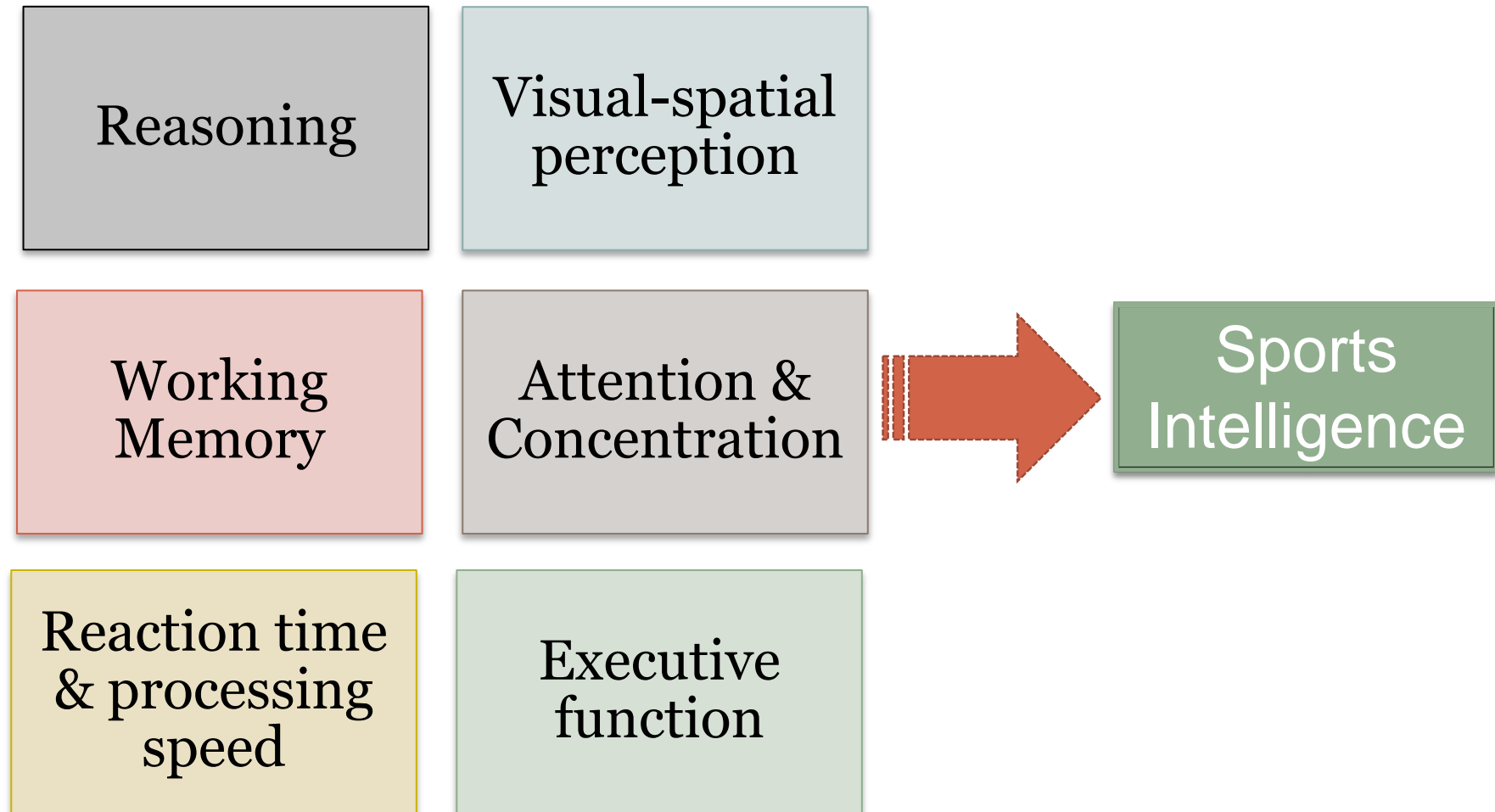
G

Generic 'sports intelligence' applicable to all sports

S

Sports 'specific intelligence' more relevant to certain sports

Key components of intellectual functioning that likely have sport specific applications include:



Developing the classification system



- G** - An assessment generic of sport intelligence
- S** - A sports specific assessment of sport intelligence



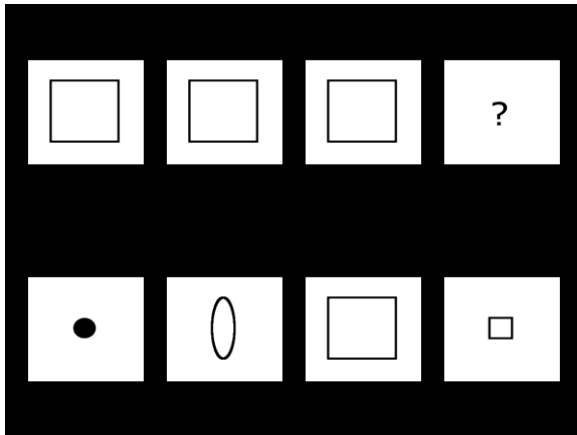
The Sport Cognition Test Battery



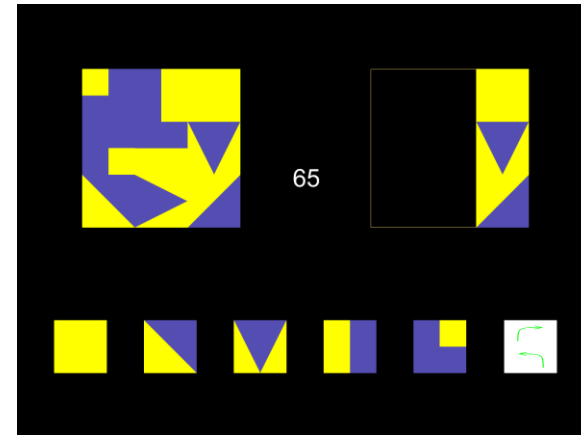
- Collection of proven psychometric tests chosen to test each area
- Able to be administered largely non-verbally
- Quick to administer
- Largely touch screen computer, with some 'table top' tests
- Easy and quick to score



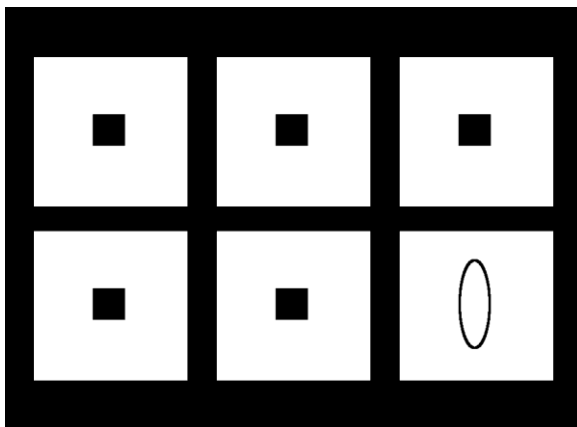
inductive reasoning (fluid intelligence)



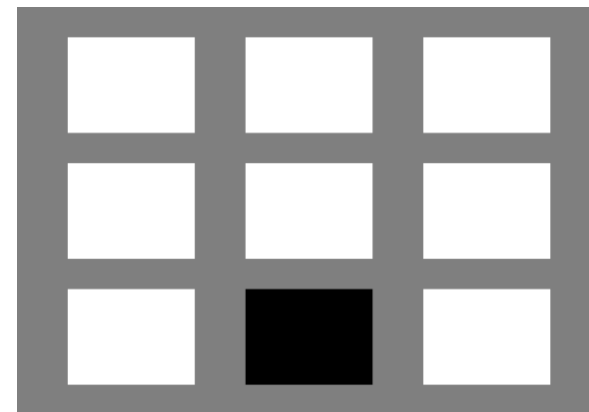
visual processing (visual perception /visuo-spatial abilities)



inductive reasoning (fluid intelligence)



memory (Corsi blocks)



S - Sport specific assessment

Two components

1. Observation in competition – video analysis of relative stroking speed, mid-pool. ID athletes have relative low stroke speeds compared to non-disabled athletes
2. TSAL-Q – a questionnaire based inventory of training and experience



Sports intelligence tests – Bandwidth model



- Statistical analysis of the results of the tests are used to create a profile of the athlete
- A standardised profile is also taken for non-disabled athletes
- The two profiles will then be compared and the parameters by which to identify an ID athlete will be agreed on a sport by sport basis

Bandwidth model



Non – disabled sample

Tests

1

2

3

4

5

6

7

8

High
scores



Low
scores



High
scores



Low
scores



Disabled Sample

Bandwidth model



Non – disabled sample

Tests

1

2

3

4

5

6

7

8

High
scores

Low
scores

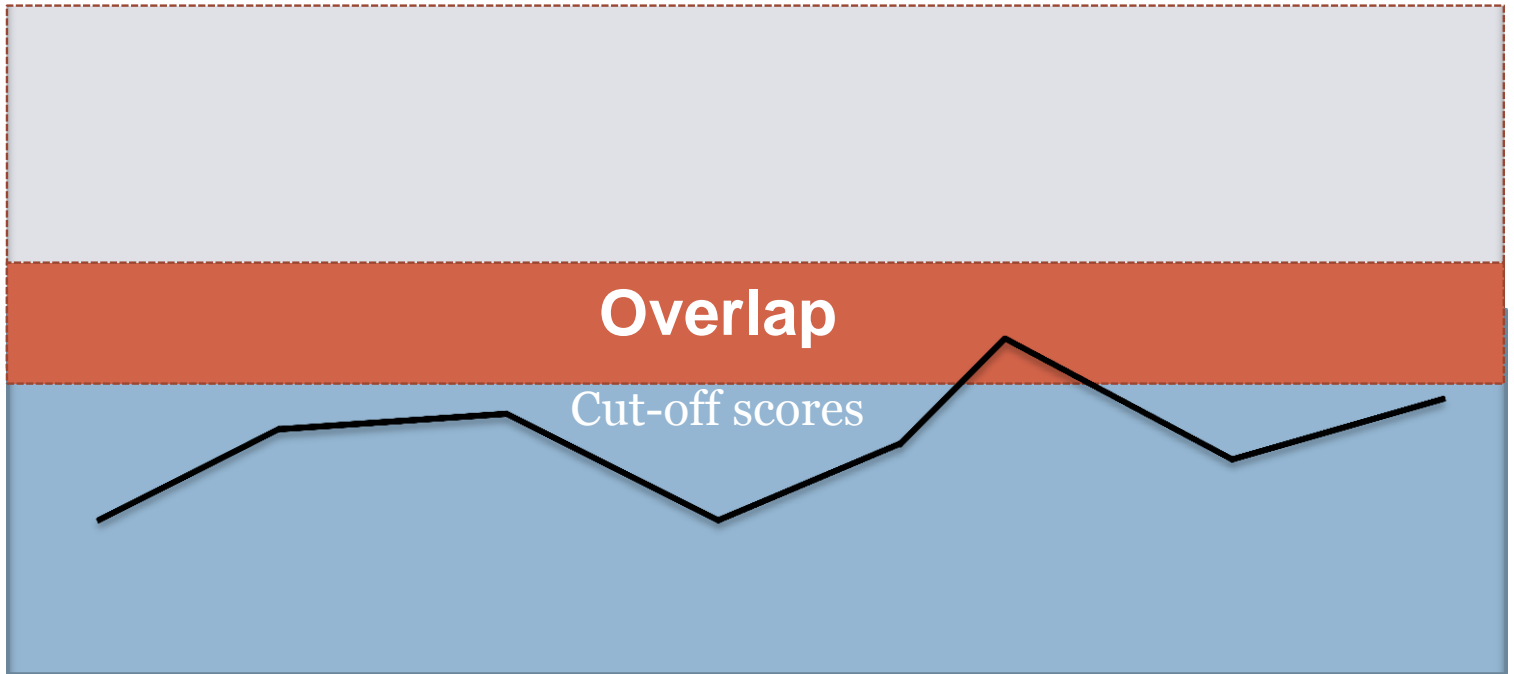
High
scores

Low
scores

Overlap

Cut-off scores

Disabled Sample



Swimming



COMPONENT	Tests	Task	Scoring	Cut -off Score
Memory and Learning	Corsi (memory capacity)	To remember a sequence of blocks and to repeat the sequence in the same order	Average length of a sequence	6.69
Executive Functioning	Tower of London (executive functioning)	To copy the frame structure by moving balls in the least number of moves possible	Number of items solved correctly	12.43
Visual Perception & Fluid	Block Design (visual spatial ability)	To copy patterns with 3D white/red cubes	Raw total performance score	58.31

Example 2: Table Tennis classification



Table Tennis Classification



- 3 parts
 1. Touch screen generic sports intelligence tests
 2. On court technical tests
 3. In competition observation

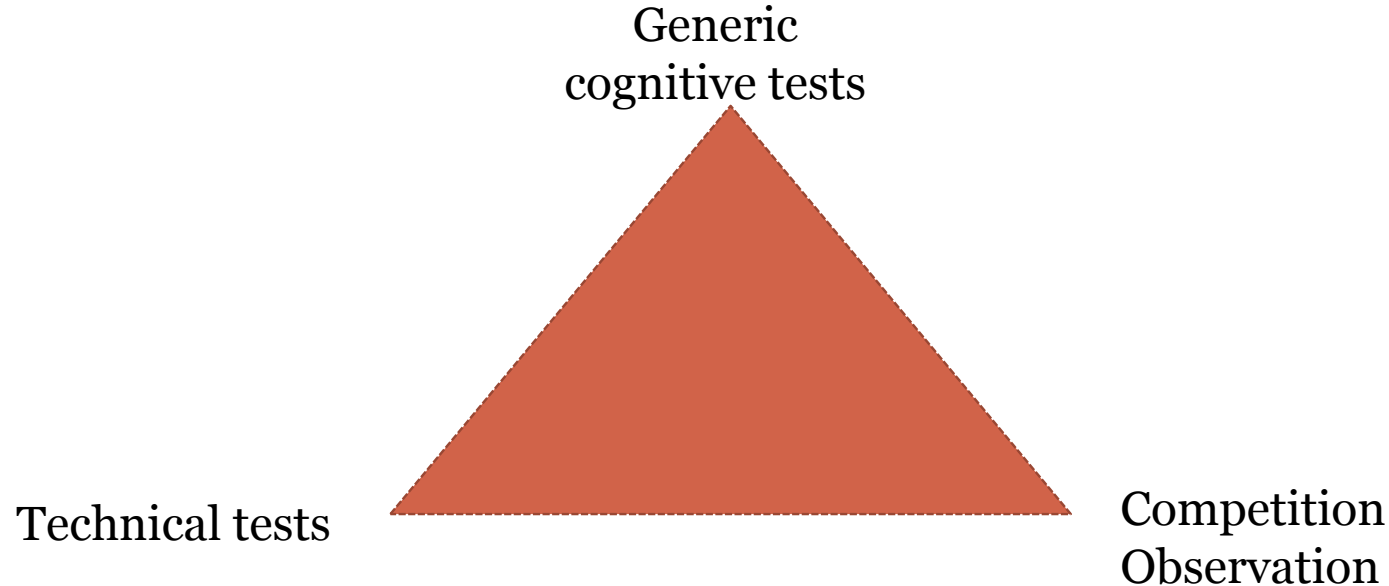


Table Tennis Tactical Battery: protocol



INSTRUCTION:

Let's play a game to 5 points (12 times). Your opponent will be the one to deliver the service every time and you return.

The service will be 5 times identical in spin, speed and position.

You have to try to win each point, starting with a good return.

Sport specific Battery: tactical



Short no spin

Short backspin

Short topspin

Short lateral left

Short comb back right

Short comb top left

Long quick no spin

Long backspin

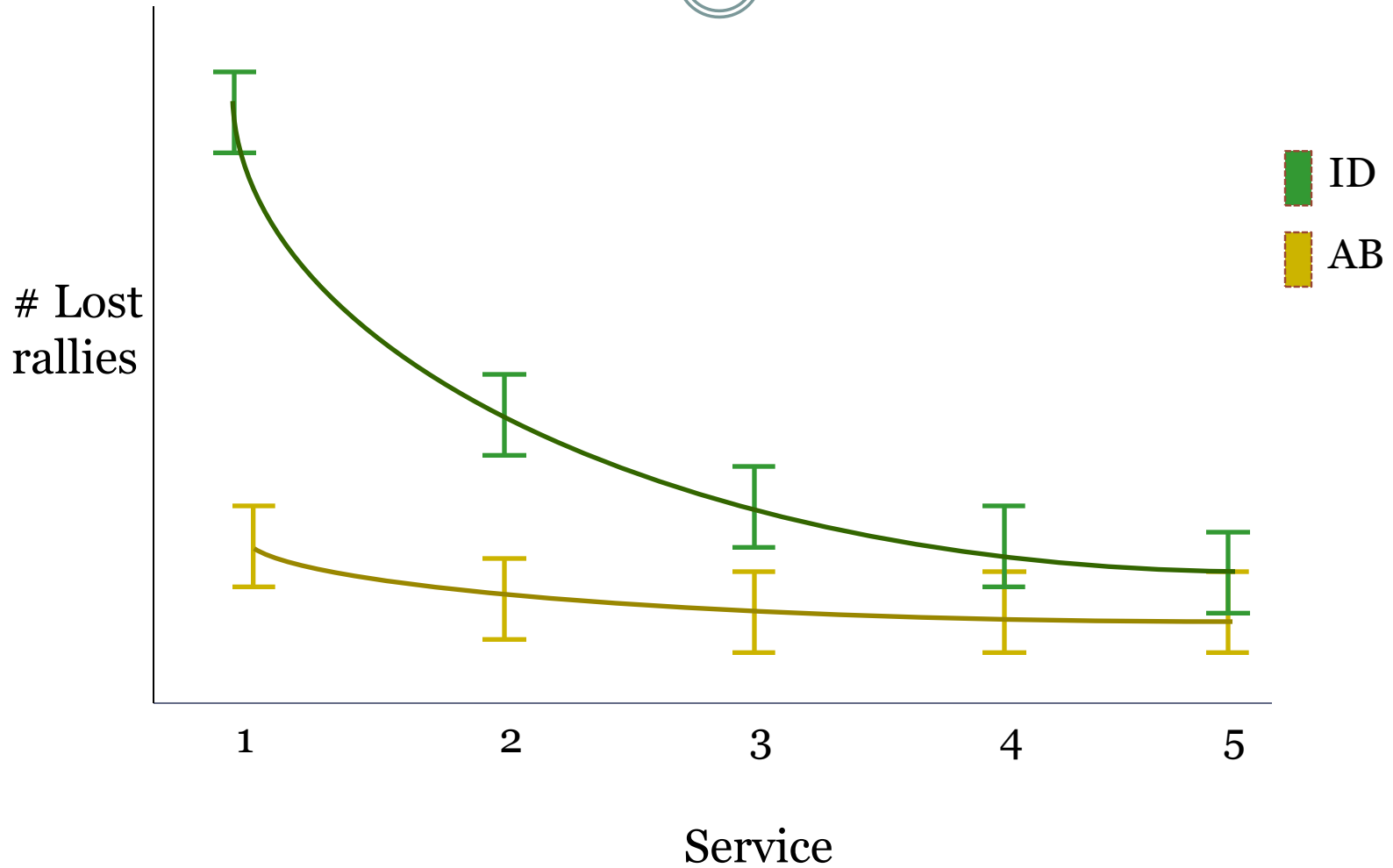
Long topspin

Long lateral right

Long comb back left

Long comb top right

Table Tennis Tactical Battery



What next?



- Lots more to do
- Other sports, basket ball, skiing, football
- Funding an issue
- However, good developments and we will see ID athletes compete in London this summer
- Questions?

Thank you for listening